



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,413	06/10/2005	Helmut Rupp	2004P84076WOUS	3589

28524 7590 11/30/2006

SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

EXAMINER

LEE, GILBERT Y

ART UNIT	PAPER NUMBER
----------	--------------

3673

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/538,413

Applicant(s)

RUPP ET AL.

Examiner

Gilbert Y. Lee

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/10/05</u> | 6) <input checked="" type="checkbox"/> Other: <u>Examiner's Attachments A & B</u> |

DETAILED ACTION

Claim Objections

1. The examiner is making an inquiry to claims 17, 18, and 22. The preamble to claims 17, 18, and 22 claims a subcombination directed to "a brush seal," but the body of the claim definitely claims structure of the stator and the rotor in the phrases, "mounted first on the stator", "direction of the rotor", and "wherein the rotor to be sealed off has at least one continuous bead," making it a combination of both the stator and rotor and the brush seal. For the purposes of this examination, the examiner is interpreting this claim to be a subcombination claim directed just to the brush seal with the stator and rotor being merely intended use. Furthermore, claim 17 seems to be a method limitation for "pushing-on" a brush ring carrier. Applicant should amend the claims to reflect whether the claim should be a combination of the rotor and the brush seal, or the subcombination of the brush seal alone.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15, 17, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "further brush ring carrier" in lines 5 and 6. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 3673

Claim 17 recites the limitations "the circumferential slot" in line 1, "the latching nose" in line 2, and "the newly pushed-on brush ring carrier" in lines 2 and 3. There is insufficient antecedent basis for these limitations in the claim.

Claim 20 recites the limitation "the support plate" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 20 recites the term "and/or". The term "and/or" does not make the intention of the invention clear. The examiner is making an inquiry as to whether the invention includes both a support plate and a protective ring being radially elastic or if a support plate or protective ring can be radially elastic. For the purposes of this examination, the examiner is interpreting the claim as to the invention including a support plate or protective ring being radially elastic.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Note for reference characters A-M refer to the Examiner's Attachment A and for reference character Z refer to the Examiner's Attachment B.

Art Unit: 3673

3. Claims 12-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walter et al. (US Patent No. 3,773,336) in view of Langston et al. (US Patent No. 6,623,238).

Regarding claim 12, the Walter et al. reference discloses a seal (Fig. 6) sealing a gap between a rotor (e.g. 17) and a stator (e.g. 15), comprising:

a ring (e.g. 28-31) and at least two annular ring carriers (e.g. A-E) extending in the circumferential direction of the rotor (Fig. 6), each ring being fixed between a first end face (F) of a first brush carrier (e.g. A) and a second end face (G) of a second ring carrier (e.g. B), and the second ring carrier being directly fixed axially and radially to the first ring carrier (Fig. 6),

wherein the second ring carrier is fixed to the first ring carrier by an unreleasable snap connection (Fig. 6), including the ring being a lip ring (Fig. 6).

However, the Walter et al. reference fails to disclose the ring being a brush ring with a plurality of bristles.

The Langston et al. reference, a seal for a rotatable member, discloses that a brush seal can replace a lip seal (Col. 5, Lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a brush seal in place of a lip seal to the Walter et al. reference in view of the teachings of the Langston et al. reference in order to cause the exit fluid flow to be less modulated than the entering fluid flow.

Art Unit: 3673

Regarding claim 13, the Walter et al. reference, as modified in claim 12, discloses a slot (H) being formed between the first brush ring carrier and the second brush ring carrier and the slot receiving the brush ring (Walter et al., Fig. 6).

Regarding claim 14, the Walter et al. reference, as modified in claim 12, discloses at least one brush ring carrier (B) having on its first end face (I) a shoulder with a circumferential slot (K) and at least one second brush ring carrier (C) having on its second end face (e.g. face of element C in contact with I) a continuous projection (I), with a latching nose (e.g. portion of element C latched to element J), and the projection and the latching nose of the second brush ring carrier cooperating with the shoulder and with the circumferential slot of an adjacently arranged first brush ring carrier (Fig. 6).

Regarding claim 15, the Walter et al. reference, as modified in claim 12, discloses at least one brush ring carrier (B) having on its first end face (I) a shoulder with a circumferential slot (K) and at least one brush ring carrier (C) having on its second end face (e.g. face of element C in contact with I) a continuous projection (I), with a latching nose (e.g. portion of element C latched to element J), and the projection and the latching nose of the second face of the at least one brush ring carrier cooperating with the shoulder and with the circumferential slot of an adjacently arranged brush ring carrier (Fig. 6).

Regarding claim 16, the Walter et al. reference, as modified in claim 12, discloses one brush ring carrier being held at least indirectly on the stator (Fig. 6).

Regarding claim 17, the Walter et al. reference, as modified in claim 12 and as best understood, discloses a circumferential slot (K) in a brushing ring carrier (B) and a latching nose (e.g. face of element C in contact with I).

Regarding claim 18, the Walter et al. reference, as modified in claim 12 and as best understood, discloses the brush ring carriers having a support plate (e.g. Langston et al., Z) and the brush rings bearing axially against the support plate (Langston et al., Fig. 7D).

Regarding claim 19, the Walter et al. reference, as modified in claim 12, discloses the brush ring carriers having a protective ring (e.g. Langston et al., Z).

Regarding claim 20, the Walter et al. reference, as modified in claim 12 and as best understood, disclose the protective ring being radially elastic (Langston et al., Fig. 7D).

Regarding claim 21, the Walter et al. reference, as modified in claim 12, discloses the brush seal being a radial seal (Walter et al., Fig. 6).

Regarding claim 22, the Walter et al. reference, as modified in claim 12 and as best understood, discloses a brush seal (Fig. 6).

Conclusion

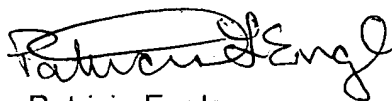
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

Art Unit: 3673

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GL
November 25, 2006

A handwritten signature in black ink, appearing to read "Patricia Engle", with a stylized flourish at the end.

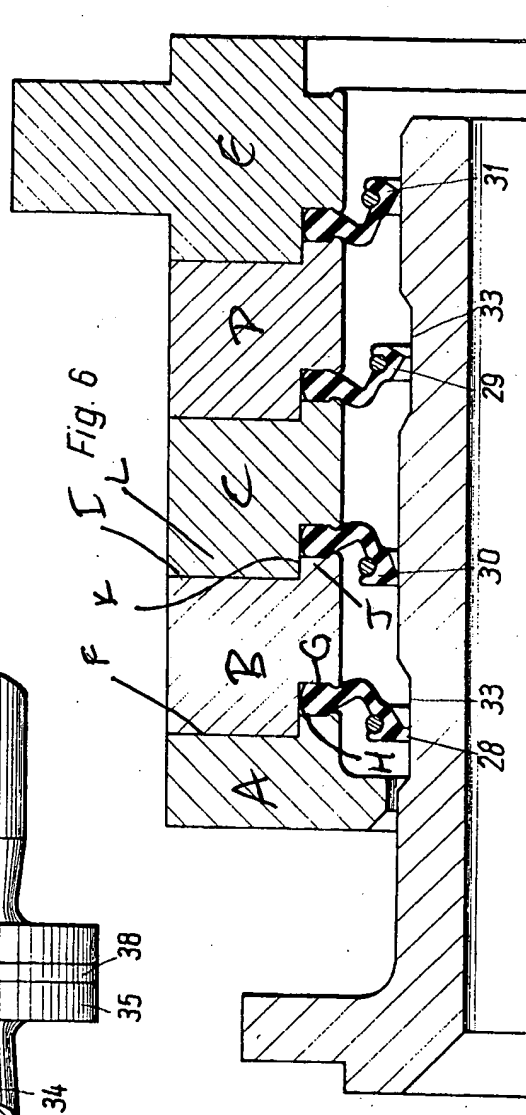
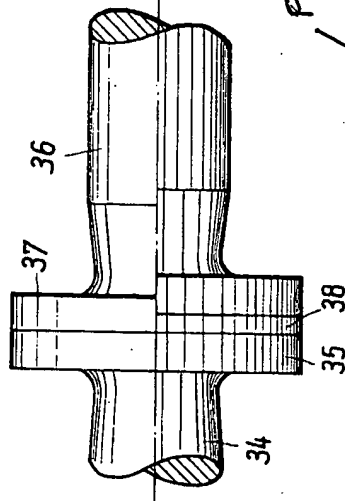
Patricia Engle
Supervisory Examiner
Tech. Center 3600

PATENTED NOV 20 1973

SHEET 5 OF 6

3,773,336

Fig. 7



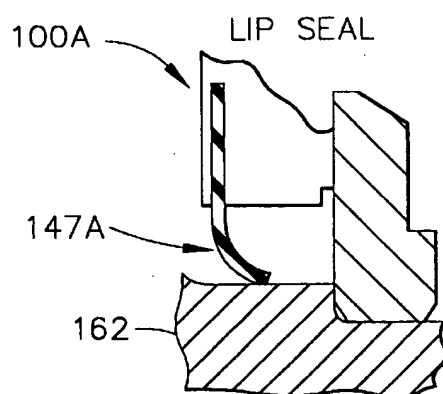


FIG. 7A

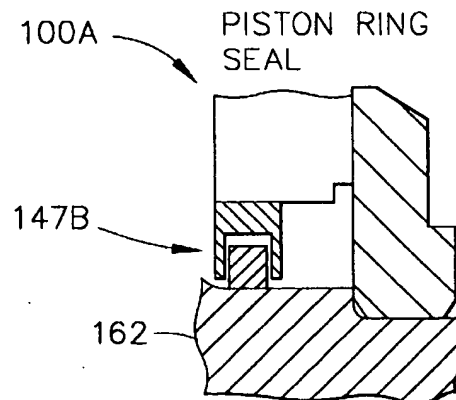


FIG. 7B

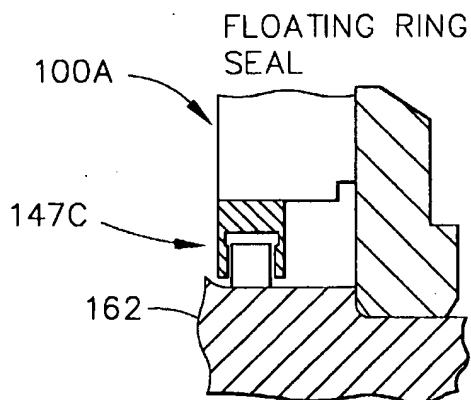


FIG. 7C

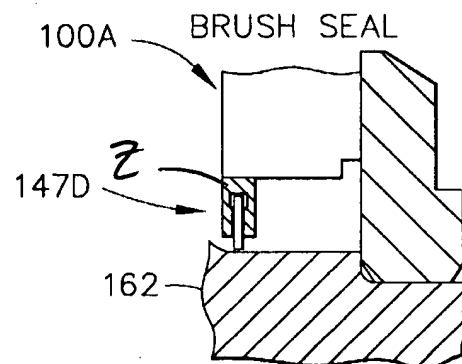


FIG. 7D

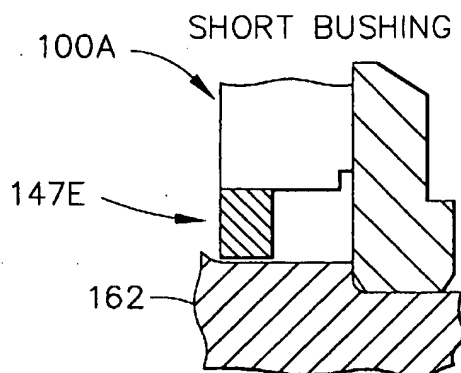


FIG. 7E

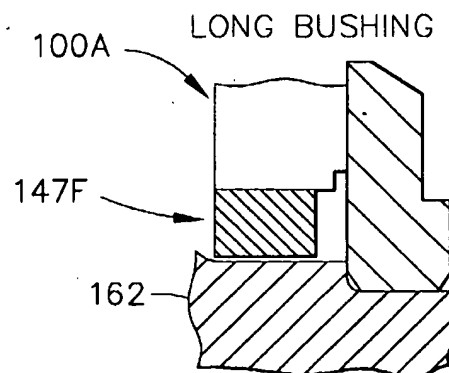


FIG. 7F